INTERNATIONAL STANDARD

ISO 7755-1

Second edition
2013-08-15

Hardmetal burrs —

Part 1: General specifications

Fraises-limes en métaux-durs —

Partie 1: Spécifications générales

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 9, *Tools with cutting edges made of hard cutting materials*.

This second edition cancels and replaces the first edition (ISO 7755-1:1984), of which it constitutes a minor revision. The tolerances given in parentheses and shown in the first edition have been deleted from Table 1; also, the shank diameters 3,15 mm and 6,3 mm, which had been accepted during the transitional period, have been deleted.

ISO 7755 consists of the following parts, under the general title *Hardmetal burrs*:

— *Part 1: General specifications*

— *Part 2: Cylindrical burrs (style A)*

— *Part 3: Cylindrical round- (ball-) nose burrs (style C)*

— *Part 4: Spherical burrs (style D)*

— *Part 5: Oval burrs (style E)*

— *Part 6: Arch round- (ball-) nose burrs (style F)*

— *Part 7: Arch pointed-nose burrs (style G)*

— *Part 8: Flame burrs (style H)*

— *Part 9: 60° and 90° cone burrs (styles J and K)*

— *Part 10: Conical round- (ball-) nose burrs (style L)*

— *Part 11: Conical pointed-nose burrs (style M)*

— *Part 12: Inverted cone burrs (style N)*

Hardmetal burrs —

Part 1:
General specifications

1 Scope

This part of ISO 7755 specifies the common characteristics of hardmetal burrs of various styles, in solid design or with brazed shank.

The main dimensions of the cutting part of hardmetal burrs are dealt with individually in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7755-2, *Hardmetal burrs — Part 2: Cylindrical burrs (style A)*

ISO 7755-3, *Hardmetal burrs — Part 3: Cylindrical round- (ball-) nose burrs (style C)*

ISO 7755-4, *Hardmetal burrs — Part 4: Spherical burrs (style D)*

ISO 7755-5, *Hardmetal burrs — Part 5: Oval burrs (style E)*

ISO 7755-6, *Hardmetal burrs — Part 6: Arch round- (ball-) nose burrs (style F)*

ISO 7755-7, *Hardmetal burrs — Part 7: Arch pointed-nose burrs (style G)*

ISO 7755-8, *Hardmetal burrs — Part 8: Flame burrs (style H)*

ISO 7755-9, *Hardmetal burrs — Part 9: 60 degrees and 90 degrees cone burrs (styles J and K)*

ISO 7755-10, *Hardmetal burrs — Part 10: Conical round- (ball-) nose burrs (style L)*

ISO 7755-11, *Hardmetal burrs — Part 11: Conical pointed-nose burrs (style M)*

ISO 7755-12, *Hardmetal burrs — Part 12: Inverted cone burrs (style N)*

3 Dimensions

3.1 Cutting diameter

Table 1 gives the series of cutting diameters and their related tolerances. The main dimensions of the cutting part of hardmetal burrs are specified individually in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

Table 1 — Cutting diameters and related tolerances

Dimensions in millimetres

Cutting diameter	Tolerance
2	± 0,1
3 4 6 8 10	± 0,2
12 16	± 0,3

3.2 Cylindrical shank

Shank diameter shall be 3 mm and 6 mm, with tolerance h9. Shank length shall be in accordance wtih Table 2. The shank length is defined as the length of the burr minus the length of the cutting part as given in ISO 7755-2, ISO 7755-3, ISO 7755-4, ISO 7755-5, ISO 7755-6, ISO 7755-7, ISO 7755-8, ISO 7755-9, ISO 7755-10, ISO 7755-11 and ISO 7755-12.

NOTE These length ranges permit manufacture both of burrs with constant overall length and variable shank length, and of burrs with constant shank length and variable overall length. In the latter case, national standards are intended to indicate the agreed shank length.

The agreed shank length shall be within the limits given in Table 2.

Table 2 — Shank diameter and length

Dimensions in millimetres

Shank diameter	Shank length
3	20 to 35
6	25 to 50

3.3 Relationship between cutting diameter and shank diameter

Table 3 gives the possible combinations of cutting diameters and shank diameters.

Table 3 — Cutting diameters and shank diameters

Dimensions in millimetres

Cutting diameter	Shank diameter	
	3	6
2	×	
3	×	×
4	×	×
6	×	×
8		×
10		×
12		×
16		×

4 Direction of flute helix and direction of cut

Burrs shall have a right-hand helix and right-hand cut, unless otherwise specified.

60° and 90° cone burrs (shapes J and K) may also be straight fluted.

5 Designation

5.1 Explanation of the designation code

The designation of hardmetal burrs includes six symbols, the last one being optional.

The meaning of the symbols is as follows:

1 letter symbol identifying the burr style (see 5.2.1);

2 number symbol identifying the cutting diameter (see 5.2.2);

3 number symbol identifying the cutting part length (see 5.2.3);

4 letter symbol identifying the tooth type (see 5.2.4);

5 number symbol identifying the shank diameter (see 5.2.5);

6 number symbol identifying the shank length – optional (see 5.2.6).

EXAMPLE

1	2	3	4	5	6
C	**12**	**25**	**M**	**06**	**30**

5.2 Symbols

5.2.1 Symbol for the burr style — Reference 1

Table 4 gives the letter symbols identifying each burr style.

Table 4 — Letter symbols identifying burr styles

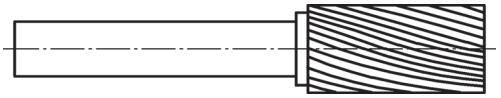
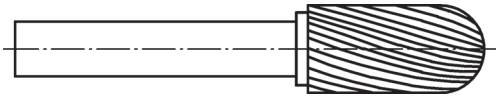
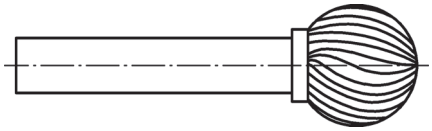
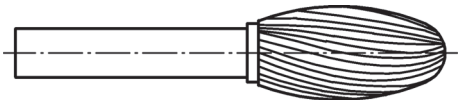
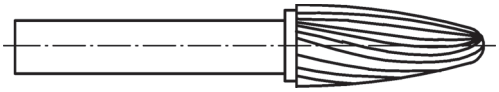
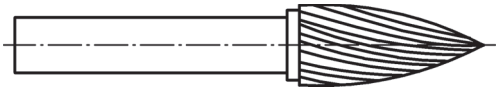
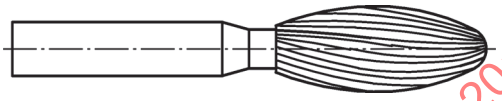
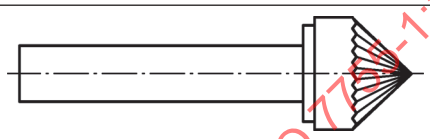
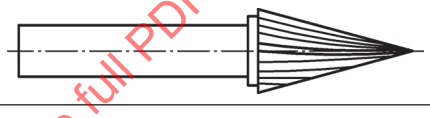
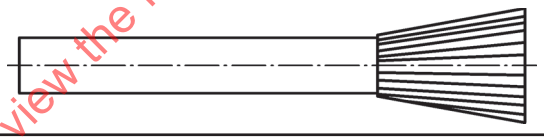
Letter symbol	Type	Illustration
A	Cylindrical burr	
C	Cylindrical round-(ball-)nose burr	
D	Spherical burr	
E	Oval burr	

Table 4 *(continued)*

Letter symbol	Type	Illustration
F	Arch round-(ball-)nose burr	
G	Arch pointed nose burr	
H	Flame burr	
J	60° cone burr	
K	90° cone burr	
L	Conical round-(ball-)nose burr	
M	Conical pointed nose burr	
N	Inverted cone burr	

5.2.2 Symbol for the cutting diameter — Reference 2

The number symbol is the numerical value of the cutting diameter, in millimetres. One-digit values shall be preceded by a “0” (zero).

EXAMPLE 1 cutting diameter 6 mm – symbol **06**

EXAMPLE 2 cutting diameter 12 mm – symbol **12**

5.2.3 Symbol for the cutting part length — Reference 3

The number symbol is the numerical value of the cutting part length, in millimetres, ignoring decimals. One-digit values shall be preceded by a “0” (zero).

EXAMPLE 1 cutting part length 5,2 mm – symbol **05**

EXAMPLE 2 cutting part length 10 mm – symbol **10**

5.2.4 Symbol for the tooth type — Reference 4

Table 5 gives the letter symbols identifying each type of tooth.

Table 5 — Letter symbols identifying tooth types

Letter symbol	Tooth type
F	Fine teeth
M	Standard (medium) teeth
C	Coarse teeth
NOTE The intention is to study the number of teeth for each tooth type in the future.	

5.2.5 Symbol for the shank diameter — Reference 5

Table 6 gives the number symbols identifying the shank diameter.

Table 6 — Number symbols identifying shank diameters

Dimensions in millimetres

Number symbol	Shank diameter
03	3
06	6

5.2.6 Symbol for the shank length — Reference 6

The optional number symbol is the numerical value of the shank length, in millimetres, ignoring decimals.